Talking Points: EPA-FCC DTV Transition

Gearing up for the Digital transition

- On February 17, 2009, high powered television stations will switch from analog to digital transmission**.**
- Consumers who use a TV with a digital tuner or subscribe to a TV service such as cable or satellite will not be affected by the transition. However, people who receive over the free air broadcasts either through rabbit ears or roof antennas on an analog TV sets will have to take action to continue to receive broadcasts.
- The Consumer Electronics Association survey (April 2008)**--** Nearly 32 million new televisions are expected to enter US homes in 2008, while 68.2 million televisions are expected to leave homes through donation, recycling or trash. The TV market is in the middle of transitioning from analog technology to digital technology. Currently, about 50% of US households have a DTV, while 39% own a HDTV. By year-end 2008, over 100 million DTVs will have shipped to US homes. As a result, some consumers seek to move one or more analog televisions out of their home, which translates to a high removal to sales ratio (68.2 million removed in 2007 vs. 28.5 million new TVs shipped).[1]
- Research by Nielsen, NAB and CEA estimate that there are approximately 13-19.6 million households that only receive over the air broadcasts. The estimated number of OTA television sets is 69 million.
- According to a survey by the Association of Public Television Stations, roughly 62 percent of the approximately 14.5 million over-the-air consuming households who are aware of the cutoff to analog television indicated that they would buy a converter box or digital TV set between now and when the transition takes effect February 17, 2009, compared to 10 percent who would opt for cable, satellite or telecommunications service to receive digital television.[2]
- We are encouraging consumers that receive over the air broadcasts on analog TV sets, to extend the life of their TV by subscribing to a paid TV service or purchasing a digital converter box. A converter box converts digital transmission to analog so a user with an analog TV can continue to receive television broadcasts after February 17, 2009.
- Certified converter boxes cost between $40-$70. The National Telecommunications and Information Administration (NTIA) is administering the TV Converter Box Coupon Program, through which households can request two $40 coupons. NTIA has a total of 33.25 million coupons designated for the program. More information about the converter box program is available at www.dtv2009.gov
- There are Energy Star qualified converter boxes available as well.
  - Note: Translators stations and Low-power television stations that provide locally oriented content and serve primarily rural areas are not required to convert to digital broadcasts.
  - Converter boxes available that are allow analog pass through
- For consumers that choose to buy a new digital TV, we are encouraging them to look for energy efficient sets with the ENERGY STAR label and recycle their old TV.
- To find recycling programs in your community, we suggest that people use the zip-code based search engines available on Earth911 and My Green Electronics.
- The Plug-In program is working to encourage our partners to increase the availability of TV recycling opportunities.
  - Two programs of notice are Sony's and Best Buy's
    - Sony has teamed up with Waste Management to offer their customers the opportunity to recycle used Sony electronics, including TVs for free. The program is currently available at over 138 select Waste Management locations and they have plans to expand. By the end of this year they intend to have at least one recycling location in every state.
    - Best Buy's recently announced program is starting off as a pilot in 117 stores, and may expand it if the pilot proves to be successful. Consumers can recycle for free 2 electronic products

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[1] Consumer Electronics Association. *CEA Market Research Report: Trends in CE Recycle, Reuse, and Removal.* April 2008.
[2] Association of Public Televisions Stations (APTS). March 20, 2008. Press Release: *More Than Half of Over-The-Air Consumers Prefer Free Broadcast Television After the DTV Transition.* The study results are based on a February 2008 survey of 1,307 households conducted by research firm CENTRIS.

every day at a participating Best Buy store. In addition to computers and other consumer electronic products, TVs with screens up to 32 inches are accepted.

- We will be working throughout this year to facilitate and encourage TV recycling. We are focused on outreach and looking for ways to encourage people to recycling their TVs. Currently, we have a webpage on the digital transition and a joint fact sheet with the FCC. We are working with the FCC and NTIA to try to insert the recycling message into their outreach materials. Additionally, they both have outreach materials that we are welcome to use and we can simply insert the recycling message into them.

EPA Data

We are in the process of finalizing our report *Electronics Waste Management in the United States: Approach 1*, however results from our analysis are depicted in the chart below. Approximately 18 percent (by weight) of TVs are collected for recycling.

Draft 2008 Baseline Report -- Management of TVs (million of units)			
	Generated	**Disposed**	**Recycled**
2004	23.5	19.2	4.3
2005	24.0	19.4	4.5
2006	25.7	19.9	5.8
2007	26.9	20.6	6.3

These figures illustrate how CRT, flat panel, and project televisions have been managed at their end of life. We are unable to predict how many televisions will enter the waste stream because of the digital transition. This is due to a variety of data limitations on consumer behavior and a change in usage patterns given the significant change in product technology (flat panel displays, high definition, etc.) which may be spurring a faster product replacement rate. (Our model is based on 2004 data of consumer behavior.)

EPA estimates that more than 80% of CRT devices (and materials resulting from the processing of CRTs in the U.S.) that were collected for reuse or recycling were sent to foreign end markets. All CRT glass furnaces are outside the U.S., primarily in Asia. Thus, most CRT glass is exported to glass manufacturing furnaces in Asia, where new CRTs are made using recycled glass.

- U.S. markets for reuse of this equipment, as well as for use of recycled raw materials in manufacturing, are extremely limited, and are likely to remain so. Thus, without international markets, many of the efforts currently underway in the U.S. to divert used electronics away from disposal (landfilling and/or incineration) and toward reuse and recycling could not be sustained.
- The worldwide demand for used electronic equipment and components is both very high and extensive. Many used electronic components are marketed globally, with the highest demand in Asia, where these components are often used in the production of refurbished or remanufactured electronics.

Additionally, we are exploring the possibility of including CRT TVs in the WARM model. We are conducting a preliminary feasibility analysis based on the availability of data and model boundaries. However, this piece would help enhance the benefits piece of our story. It would enable us to quantify the benefits of recycling CRT TVs and articulate the benefit of recycling in terms of greenhouse gas reductions, which is beginning to really resonate with folks.

Future Forecast

As more and more CRTs are returned for recycling, but fewer CRTs are produced, new markets for leaded CRT glass will be needed. While there continue to be robust markets for reusable/refurbishable CRTs and CRT glass in developing countries (where CRT glass recycling capability is available), this will only last so long before the markets in those locales change too. Then, alternative uses for CRT glass will be necessary, as old CRTs will still be disposed of even after new CRTs are no longer made.

- Flat screen monitors and TVs (featuring liquid crystal displays or plasma screens) are displacing cathode ray tubes (CRTs). Sales of flat panel TVs outstripped CRTs in 2007.

ENERGY STAR savings associated with each option

- *[Option 1: Connect your analog TV to a digital-to-analog converter box.]* If all of the digital-to-analog converter boxes sold in the U.S. met the ENERGY STAR specification, we would save 823 million kWh annually, or approximately $89 million in energy costs and reduce greenhouse gas emissions equivalent to 105,052 cars. A list of ENERGY STAR qualified models can be found on www.energystar.gov/products (select Digital-to-Analog Converter Boxes and then select either the PDF or Excel version of the 'Product List' on the right-side toolbar).
- *[Option 2: Buy a digital television (a TV with a built-in digital tuner)]* For consumers who choose to buy a new TV, ENERGY STAR qualified TVs covering all of today's screen technologies in all sizes will become available in November 2008. The ENERGY STAR label will mean they are up to 30 percent more efficient. If each TV purchased in the U.S. in one year was ENERGY STAR qualified, we would prevent more than 3 billion pounds of greenhouse gas emissions per year (a savings of over 2 billion kWh, $250 million in energy costs, and reduced greenhouse gas emissions by the equivalent of about 300,000 vehicles annually).
- *[Option 3: Subscribe to a paid TV service]* For cable, satellite, and internet protocol boxes – also called "set-top boxes," which are becoming effective January 1, 2009, those that carry the ENERGY STAR will be at least 30 percent more energy efficient than conventional models. After this new specification goes into effect, if all set-top boxes sold in the United States meet the ENERGY STAR requirements, the savings in energy costs will grow to about $2 billion each year and greenhouse gas emissions will be reduced by the equivalent of about 2.5 million vehicles annually.